

## GAIN VARIABLE AMPLIFIER

<b>Patent number:</b>	JP4160810
<b>Publication date:</b>	1992-06-04
<b>Inventor:</b>	UMEYAMA TAKEHIKO; others: 01
<b>Applicant:</b>	MITSUBISHI ELECTRIC CORP
<b>Classification:</b>	
- international:	H03G3/10; H03G3/30
- european:	
<b>Application number:</b>	JP19900288235 19901024
<b>Priority number(s):</b>	

## Abstract of JP4160810

**PURPOSE:** To decrease the degree of a narrowed dynamic range by a degree of omission of a buffer circuit by controlling directly a base voltage of a DC voltage level control transistor (TR) with a gain control voltage.

**CONSTITUTION:** A voltage VGC<+> fed to a positive gain control signal input terminal 1a in a gain control signal VGC is higher than a VGC<-> fed to a negative gain control signal input terminal 1b, since a current flowing to a constant current source 2 is constant, a collector current of a 1st TR Q1 increases and a collector current of a 2nd TR Q2 decreases. In this case, a current flowing from a constant current source 3 being a component of a voltage source 10 flows while being branched into a path from the 2nd TR Q2 to the constant current source 2 and a path of a resistor R1, and the current sum is constant. Thus, a buffer circuit employing an NPN TR is omitted and the degree of a narrowed dynamic range in an output signal is suppressed when a power supply voltage applies to a power voltage terminal is low.

